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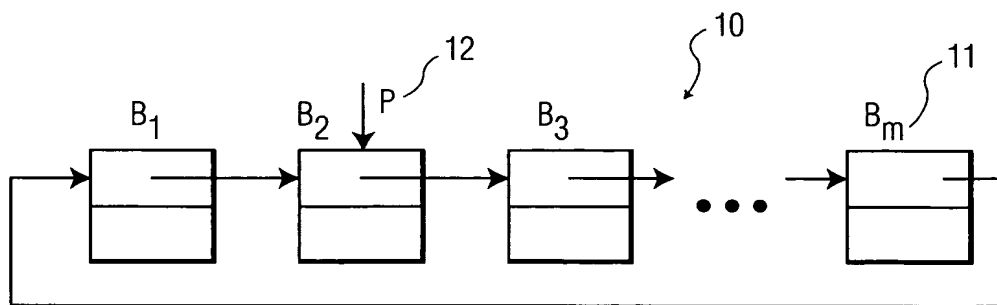


FIG. 1A

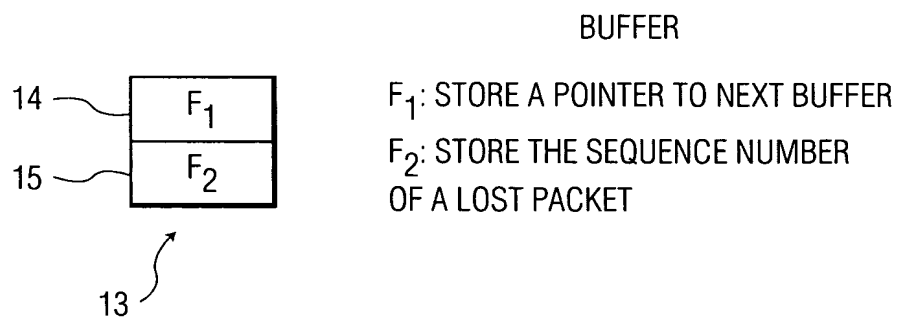


FIG. 1B

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CIRCULAR BUFFER INITIALIZATION:

$B_i \rightarrow F_2 = 0$, FOR $i = 1, 2, \dots, m$
 $P = B_1$

NORMAL OPERATION:

VARIABLE:

s: CURRENT PACKET SEQUENCE NUMBER

h: LENGTH OF OBSERVED HOLE IN SEQUENCE NUMBER

P: THE POINTER THAT CIRCULATES THE CIRCULAR BUFFER

UPON **RECEIVING A PACKET** WITH SEQ. NO. x

```

{
    h=x-s;
    if (h>0)
    {
        if (h=1) //NO HOLE
        {
            if ( $P \rightarrow F_2 \neq 0$ ) {
                declare the packet with the seq. No of  $P \rightarrow F_2$  lost;
                 $P \rightarrow F_2 = 0$ ;
            }
             $P = P \rightarrow F_1$ ; //MOVE THE POINTER TO NEXT BUFFER
        }
        while (h>1)
        {
            if (h>1) //HAS HOLE
            {
                if ( $P \rightarrow F_2 \neq 0$ ) {
                    declare the packet with the seq. No of  $P \rightarrow F_2$  lost;
                }
                 $P \rightarrow F_2 = ++s$ ; //A POSSIBLE LOSS
                 $P = P \rightarrow F_1$ ; //MOVE THE POINTER TO NEXT BUFFER
            }
            h--;
        }
        s=x; //UPDATE THE CURRENT SEQUENCE NUMBER
    } else //RECEIVE AN OUT OF ORDER PACKET
    {
        find out  $B_i$  that  $B_i \rightarrow F_2 = x$ , do
         $B_i \rightarrow F_2 = 0$ ; //CLEAN THE RECORD.
    }
}

```

FIG. 2A

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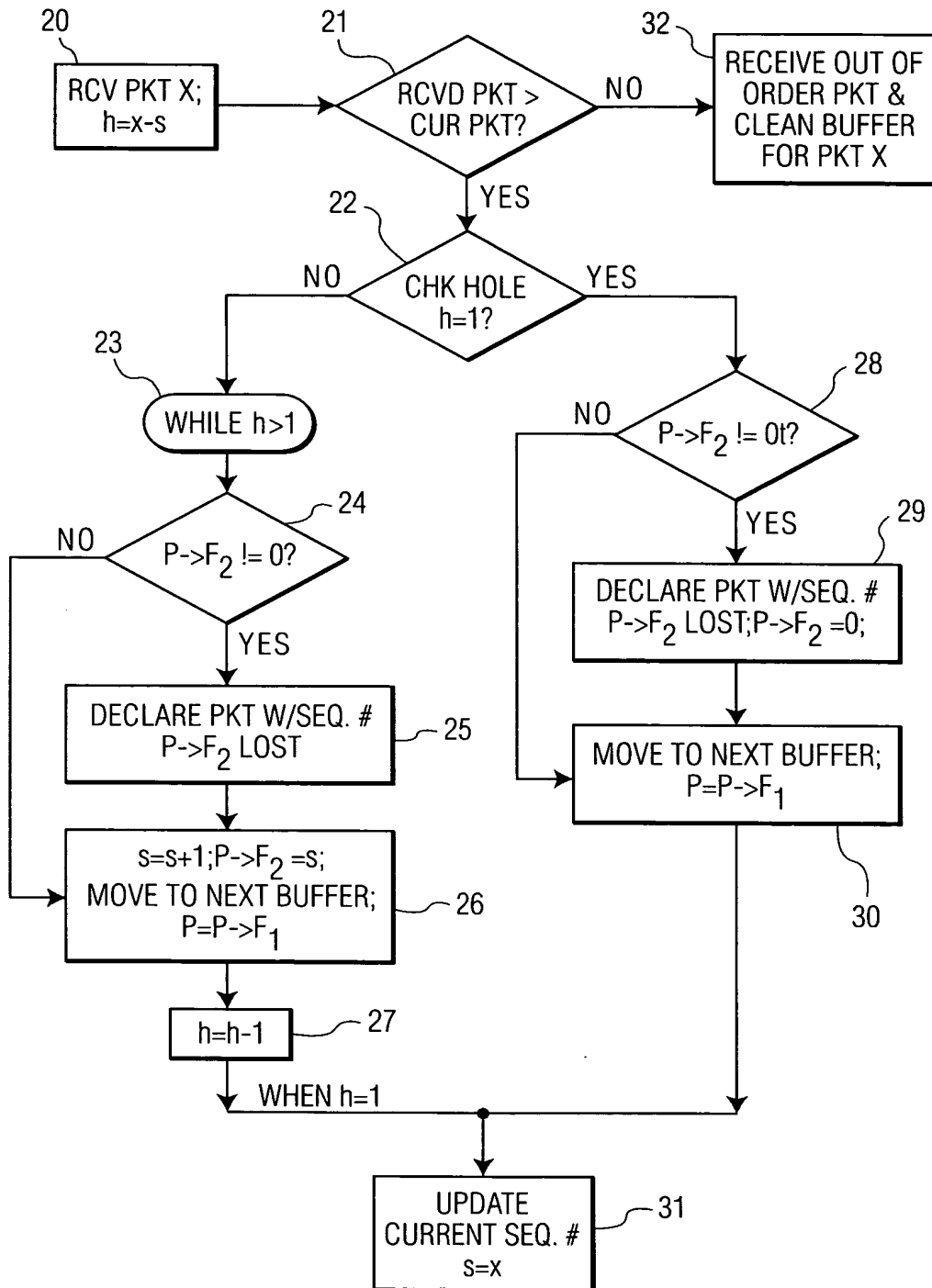


FIG. 2B

chain_size adaptation:**INITIALIZE:**

m=4; //INITIAL CHAIN SIZE

success_rate=EXPECT_RATE; //DECLARED SUCCESS RATE

//DEFINED AS THE RATIO OF TRUE LOSSES TO TOTAL DECLARED LOSSES

false_rate=0; //FALSE DECLARATION RATE

//DEFINED AS THE RATIO OF FALSELY DECLARED LOSSES TO TOTAL DECLARED LOSSES

UPON RECEIVING A PACKET OR MAKING A LOSS DECLARATION

{

update success_rate and false_rate;

 if MIN_CHAIN_SIZE < m < MAX_CHAIN_SIZE

 if success_rate > EXPECT_RATE

 consider **deleting a buffer** from the chain and m--;

 if false_rate > TOLERABLE_RATE

35

36

FIG. 3